

Confidential Release

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93-487-TP-ALT

93-576-TP-CSS

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Testimony of Dr. Mark N. Cooper.

****NON-PUBLIC VERSION****

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In The Matter of the Application)
of the Ohio Bell Telephone)
Company For Approval of an) Case No. 93-487-TP-ALT
Alternative Form of Regulation)

In the Matter of the Complaint of)
the Office of the Consumers')
Counsel,)

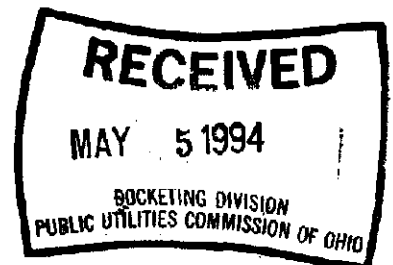
v. Complainant)

Case No. 93-576-TP-CSS

Ohio Bell Telephone Company,)

Respondent,)

Relative to the Alleged Unjust and)
Unreasonable Rates and Charges)



**TESTIMONY OF DR. MARK N. COOPER
ON BEHALF OF
THE AMERICAN ASSOCIATION OF RETIRED PERSONS**

May 5, 1994

1 in the foreseeable future.

2 Not only will there be more than enough time to recover the ISDN investment,
3 but when broadband gets to a subscriber served by ISDN, little of the investment made
4 will be rendered obsolete. Truly broadband applications will lag behind the deployment
5 of the transmission medium, and the ISDN investments will continue to be used and
6 useful either by serving the existing customer or by being salvaged and moved to serve
7 another customer (who is scheduled for much later deployment of broadband).

8
9 Q. HAS THE COMPANY RECOGNIZED THE ATTRACTIVENESS OF ISDN?

10 A. Yes. The "Testimony of Linda S. Klais," pp. 25-27, identifies the many specific
11 areas and types of applications that are possible with ISDN. However, an even more
12 important point was made in a 1990 Ameritech report (Ameritech ISDN Investment Case,
13 April 2, 1990) which noted that ISDN is an economic undertaking in its own right that
14 fills an important evolutionary place in the unfolding of the information age.

15 This report spoke of ISDN along these lines in glowing terms. The economic
16 analysis was highly favorable.

17 ** ISDN is projected to operate at a revenue to expense ratio of 3.9 to 1. It
18 will provide a total Net Income of \$1509.7M over the ten year study
19 period. Cash flow evaluation of ISDN is also favorable. The project will
20 reach a discounted Payback Status at the end of six years with an Internal
21 Rate of Return of 45.1% and a Project Rate of Return of 35.7%. ISDN
22 will provide a cumulative discounted Cash Flow/Net Present Value of
23 \$470.6M over the study period (p. 3). **

24
25 Even four years ago the company also rejected the notion that a lack of
26 applications would make ISDN unattractive.

1 **

2 ARE THERE ANY ISDN APPLICATIONS?

3 The ISDN technology definitely developed ahead of the
4 ISDN applications. Until very recently there was a prob-
5 lem of very few applications. The same thing happened
6 with PCs.

7
8 Over the last several years the industry and the leading edge
9 users have turned their attention to ISDN applications. The
10 AT&T TriVista program has documented approximately
11 fifteen ISDN applications that show how users can benefit
12 from ISDN. AT&T has also entered into agreements with
13 third-party hardware and software companies to develop
14 products compatible with the AT&T version of ISDN. As
15 a footnote, it is believed that large numbers of hardware
16 and software vendors will develop ISDN products compati-
17 ble with the new standard multi-vendor interface now that
18 AT&T, NTI, and Siemens have agreed to support his
19 common interface (p. 8). **

20
21 The crucial role of ISDN as a transitional step in network evolution was also
22
23 identified.

24 **

25 ISDN - TOO LITTLE TOO LATE?

26
27 Motorola, American Express, McDonalds, and hundreds of
28 other companies don't think so. Their competitors may feel
29 that it is too late to regain that competitive edge. Yet today
30 these companies could still achieve improvements in
31 response time, productivity and profitability that ISDN has
32 delivered. In addition to its ability to meet the customer's
33 communications requirements, ISDN also has the capability
34 to act as transport for standard applications (p. 9)

35
36 In the longer term, as broadband also becomes available at
37 economical price, applications will also be developed to
38 utilize these ever-higher bandwidths. Some people have
39 proposed we "leapfrog" narrowband ISDN or go directly to
40 broadband. The following is rationale for why such a
41 "leapfrog" strategy is not practical

42
43 There are differing opinions on when broadband might be
44 available but many experts are projecting that it might be

1 available for larger businesses in the mid 1990s and for
2 small businesses and consumer by the year 2000. There are
3 numerous issues to resolve including cost and willingness
4 to pay especially for small businesses and consumers.
5 Assuming that these issues are resolved favorably, a
6 "leapfrog" strategy would keep us out of the data market
7 for almost five years for large businesses and perhaps ten
8 years for small businesses and consumers. If Ameritech
9 does not provide a public network data solution, then the
10 market is likely to migrate to private network solutions and
11 it will be extremely difficult to migrate it back to Ameri-
12 tech and broadband. Likewise, ISDN can position Ameri-
13 tech in the near future as a major data network providers
14 and facilitate future migration to broadband.

15
16 We would expect customer applications to evolve over time
17 to utilize higher bandwidth rather than to take a quantum
18 step from the lower spread of modems (9.6 KBPS) to the
19 higher speeds of broadband (45 MBPS). Thus, not provid-
20 ing ISDN at 64 KBPS and 1.5 MBPS may actually retard
21 the availability of broadband applications.

22
23 From a testimonial perspective narrowband ISDN is
24 establishing many of the control and signaling protocols that
25 will carry over and still be used for broadband. Waiting
26 for broadband would make the transition from today's
27 technology so much harder to accomplish in one step.

28
29 Likewise, Ameritech has a large training and skills transi-
30 tion from voice and analog of today to data and ISDN.
31 Attempting to move directly to broadband would be an even
32 more radical transition. the transition would be deferred
33 and would be difficult to accomplish in a short period of
34 time (p. 10). **

35
36 The network externality quality of ISDN was also identified.

37
38 **

39 CAN AMERITECH MAKE ISDN A SUCCESS BY 40 OURSELVES?

41 We have demonstrated above that ISDN does meet a variety
42 of customer needs in a cost effective manner. Implicit in
43 this is the assumption that customers with the need for these
44 higher performance capabilities will be able to obtain ISDN

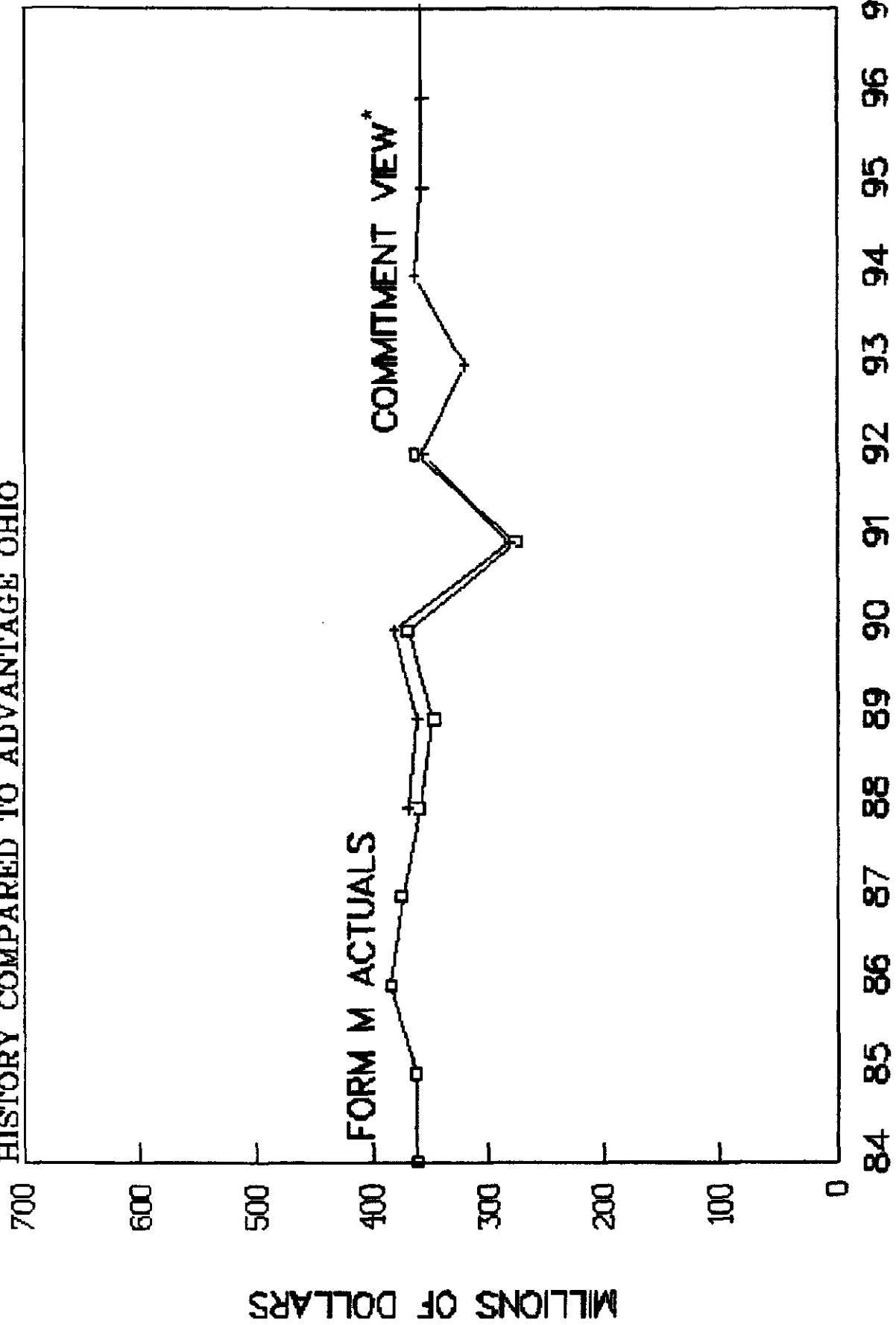
1 from their LEC. The value of ISDN to the customer is
2 definitely a function of the number of other people in the
3 same community of interest that also have the ISDN
4 capability (p. 13). **
5

6 Thus, the case for ISDN as a near term technology to meet information age needs
7 is strong and the case for deployment of broadband technology is weak. The need for
8 the broadband investment to achieve information age services has not been demonstrated
9 and alternatives have not been considered.

10 First, the decision to deploy network technologies like broadband fiber or ISDN
11 must be subject to careful analysis. The economic analysis I have reviewed shows ISDN
12 is an attractive alternative. Much more extensive consumer needs assessments than the
13 company has presented to the Commission should be conducted before large sums of
14 money are spent on infrastructure that lacks proven demand.

15 Second, Ohio Bell's proposal to leapfrog to broadband and skip digital over
16 copper technology misses an important opportunity to develop the next step in the
17 telecommunications network and learn a great deal about which direction demand will go.
18 An approach to the information age that emphasizes ubiquity combined with compression
19 will meet the vast majority of information age needs in the decade ahead including
20 distance learning and telemedicine applications.
21
22

CAPITAL EXPENDITURES HISTORY COMPARED TO ADVANTAGE OHIO



* From Commitment View, 1992, Preliminary 1994